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# Target-based topic model for problem phrase extraction

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## Abstract

© Springer International Publishing Switzerland 2015. Discovering problems from reviews can give a company a precise view on strong and weak points of products. In this paper we present a probabilistic graphical model which aims to extract problem words and product targets from online reviews. The model extends standard LDA to discover both problem words and targets. The proposed model has two conditionally independent variables and learns two distributions over targets and over text indicators, associated with both problem labels and topics. The algorithm achieves a better performance in comparison to standard LDA in terms of the likelihood of a held-out test set.

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## Keywords

Information extraction, Latent Dirichlet Allocation, Problem phrase extraction, Topic modeling